



Direct Measurement of Dissolved Carbon Dioxide

The OxyGuard CO2 is a reliable and easy to use instrument that measures the free dissolved carbon dioxide concentration directly in the water. The CO₂ concentration is shown on the display, and there is an analogue output.

The OxyGuard CO2 measures the free dissolved CO2 directly and is not affected by carbonates or other dissolved substances. It is the free dissolved CO2 - in other words the CO2 gas partial pressure - that affects the fish. The OxyGuard CO2 thus gives simple, continuous and direct measurements of the amount of carbon dioxide in the water that will affect the fish.

The analyser is easy to calibrate using the front panel "slope" and "zero" adjustments - after which you just put the probe in the water and measure. Calibration intervals are long, and the OxyGuard CO2 does NOT need regular maintenance.

Technical Information

Description

The OxyGuard CO2 Dissolved CO2 Analyser consists of a probe and a mains powered transmitter. The latter has a display, "slope" and "zero" adjustments as well as a 4-20 mA analogue output signal. The probe is delivered with a 7 m cable that can be shortened as desired.

Principle of Operation

The probe measures the carbon dioxide content of the water directly by detecting the carbon dioxide partial pressure in the water. It is important to note that it is NOT based on a pH measurement - it does NOT detect any change in pH that carbon dioxide causes. Neither does it withdraw a sample for analysis - it detects the free dissolved CO₂ - the carbon dioxide partial pressure - in the water.

The instrument's range is 0-50 mg/l. Before use the system is calibrated using mixtures of water and calibration chemicals in a special calibration beaker with stirrer. The calibration accessories - beaker with stirrer, chemicals etc., are ordered separately as they can be used for more than one analyzer.

Specifications

Size:	Probe: 40 mm dia. x 140 mm. Cable length 7 m. Meter: 120 x 120 x 58 mm Calibration beaker 65 mm dia. x 260 mm.
Weight:	Probe with cable and transmitter 1.0 kg. Calibration accessories 1.0 kg.
Supply:	230 VAC (115 VAC or 24 V DC on request)
Range:	0 - 50 mg/l dissolved carbon dioxide.
Operating conditions:	3-35°C
Accuracy:	Depends on calibration. Practical accuracy up to +/- 1 mg/l.
Response time:	Typically 5 minutes at 20°C depending on flow velocity past the probe. In still water up to 15 minutes.
Flow requirements:	The instrument does not consume carbon dioxide for its measurement, but a certain flow is necessary to ensure that the sensing element of the probe is in equilibrium with the surrounding water and to avoid "spot" measurements.
Output:	4 - 20 mA current loop.
Pressure:	0.5 bar

Ordering Information

G10PS	Probe for stationary CO2 Analyzer with 7 metres of cable
G10REPS	Exchange probe for stationary CO2 Analyzer
G02C2	OxyGuard CO2 Dissolved CO2 Analyser - probe and transmitter with 7m cable. For 230 VAC, other voltage on request.
G10CAL	Calibration accessories; Beaker with stirrer & magnet, 75 g pH conditioner, dosing spoon, 100 ml calibration solution, dosing syringe, adjustment screwdriver, battery pack, charger 100 - 240 V AC. These calibration accessories can be used for more than one OxyGuard CO2 analyzer.
G10CS	100 ml calibration solution.
G10CC	75 g pH conditioner for calibration.
G10STB	Battery Pack, 12 VDC, for CO2 Stirrer (Required if the probe is placed far away from the CO2 Analyzer)

G02 OxyGuard CO2 brochure GB 2021 02
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